

A Snap-Calc Sampler

Once you see how easy it is to use *Snap-Calc*, you will discover many applications for this simple spreadsheet—both at home and at work.

To use a spreadsheet, you must provide two elements: a set of logic rules and a set of raw data on which to apply the logic rules. Your *ON DISK* diskette has two sample files that go with the *Snap-Calc* program. The first file, called *TRIPCOST*, is a set of logic rules that will act as a "template" telling the spreadsheet how to handle a set of data to produce a set of results. The other file is a set of data to go with the template of rules. It is called *SEATTLE* on the diskette.

Following the program-loading rules RUN the *Snap-Calc* program. A greeting screen should appear with the program's title. Follow the simple screen instructions to bring the spreadsheet into view.

What you now see on your monitor (or TV screen) is the upper-left corner of the *Snap-Calc* spreadsheet. Notice the horizontal lines above and below the "1" position in the Row Name column. These lines (referred to as the cursor) bracket the "active cell" in which you may enter data. Type something and notice that the data in the cell is replaced by the characters you just typed. This Row Name column is the only column on the spreadsheet that will accept both numbers and letters; it is used to label the contents of each row.

To identify the cursor control keys, refer to the article *Snap-Calc* on page 12 of *Home Computer Magazine*, August, 1984 (Volume 4, Number 3) and locate the section marked for your brand of home computer. Move the cursor one column to the right. This column is identified at the top as "1." It is not possible to change its name. This is true for all the column names—only the row names can be changed.

Except for the Row Name column, all cells in the spreadsheet will accept only numbers, a minus sign, and a

decimal point (period) as inputs. Try typing letters and see what happens. Now type a 5 and note that it appears to the left of the decimal point. Type a period followed by another 5 and notice that the value 5.50 is now entered in the cell. Look in your Control Capsule to identify the erase-cell function, clear this cell back to 0.00, enter the value 123.5, and press the minus sign key. The value -123.50 should now appear in the cell. Try pressing the minus sign key again.

ROW NAME	1	2
1	0.00	0.00
2	0.00	0.00
3	0.00	0.00
4	0.00	0.00
5	0.00	0.00
6	0.00	0.00
7	0.00	0.00
8	0.00	0.00
9	0.00	0.00
10	0.00	0.00

Into The Unknown

Let's see how simple it is to "window around" the spreadsheet. We will start out slow and easy. Move the cursor to the right one column. Notice that it is now under the "2" column header. Move the cursor to the right again—the Row Name column disappears off the left side and column "3" appears on the right. Try getting the Row Name column back on the screen—how many "left cursor" moves did it take?

Move the cursor down the screen one cell at a time until it is on the tenth. Now move the cursor down again and watch the first row disappear from the top of the screen. Move the cursor to the top-left corner of the spreadsheet again, where we started. Here in row one, column one, you placed some characters. Type a character now and see what happens to the old data previously entered. *Be careful as you move around the cells not to press any keys and erase good data!* Note that you can move to any cell containing numeric data

and "toggle" the minus sign without erasing existing data.

Now practice entering and changing data in the different rows and columns until you are comfortable with this process.

The Mysterious Logic Mode

Before we actually work with the sample files on the disk, we should take a very quick look at the "engine-room" of this powerful spreadsheet. This is the "behind-the-sheet" section that stores the logic or math calculation rules that you design. Consult your Control Capsule to identify the key strokes for the Logic Entry Mode and activate it.

The spreadsheet will disappear from the screen, but not from the computer's memory—it will be back with all data intact. In fact, you can go into Logic Entry Mode any time without losing data from the spreadsheet. In the lower-left corner, you will see a > prompt. Type **LOGIC NAME IS FRED** and press (RETURN) or (ENTER). If you make a mistake, the computer will display an error message. (By the way, it only understands capital letters.)

Now that the logic template has a name, let's put in a rule that tells *Snap-Calc* to add up the first four rows and put the total in row 6:

$$6 = 1 + 2 + 3 + 4$$

Enter this rule as it appears above, including all spaces. If you make a mistake, just enter the rule again. Now type **END** and press (RETURN) or (ENTER).

As you can see, the spreadsheet came back with all of your data, plus the Logic Name in the upper-left corner. Now put "FRED" to the test by entering some numbers in column 1, rows 1 through 4—anything you like. Now enter a different set of numbers in the same rows of column 2. Find the Calculate-function keystrokes in your Control Capsule and activate it. After a minute or so, (the spreadsheet is applying all logic rules to all cells, which takes some time) the screen is changed to show the results of our new rule in row 6 of each column.

On the Road Again

Now that you understand how to use a spreadsheet, it is time to accelerate that learning by studying our example on the diskette. From the main spreadsheet, use the Load-function keystrokes found in your Control Capsule to bring up the Load Option screen. Notice that there is a **LOAD DATA** option (1) and a **LOAD LOGIC** option (2). Number two will bring in a set of predefined rules from a file on disk; number one will do the same for a predefined set of data.

Select 2, the **LOAD LOGIC** option and enter the file name *TRIPCOST*. The spreadsheet will reappear looking like this:

TRIPCOST	ROW NAME	1	2
1	DATE	0.00	0.00
2	CAR RENTAL	0.00	0.00
3	GAS COST	0.00	0.00
4	GALLONS	0.00	0.00
5	ODOM. START	0.00	0.00
6	ODOM. STOP	0.00	0.00
7	MILES	0.00	0.00
8	MILEAGE	0.00	0.00
9	COST/MILE	0.00	0.00
10	BREAKFAST	0.00	0.00

At this point, all the logic rules, row names, and the logic name—everything that makes up the complete spreadsheet template—has been loaded. Activate the Logic Entry Mode and type **LIST**. The set of definitions will scroll up your screen as shown in Figure 1.

Because the complete list is too large for a single screen display, you may wish to type **PRINT** to get a copy on your printer. Study each definition and rule above until you feel ready to go on. Then type **END** to return to the spreadsheet, activate the Load Option screen, and this time select 1 to load data from the disk. Now type *SEATTLE* as the data file name and press (ENTER) or (RETURN). Note that it takes a bit longer to load the data set than the logic file. When loading is complete, the spreadsheet will return with data in the

LOGIC NAME IS TRIPCOST
 TOTAL COLUMN IS 10
 LAST COLUMN IS 9
 1 IS DATE
 2 IS CAR RENTAL
 3 IS GAS COST
 4 IS GALLONS
 5 IS ODOMETER START
 6 IS ODOMETER STOP
 7 IS MILES
 7 = 6 - 5
 8 IS MILAGE
 8 = 7 / 4
 9 IS COST/MILE
 9 = 3 / 7
 10 IS BREAKFAST
 11 IS LUNCH
 12 IS DUNNER
 13 IS SNACKS
 14 IS ENTERTAINMENT
 15 IS TRIPS
 16 IS HOTEL ROOM
 17 IS AIR FARE
 19 IS DAILY TOTAL
 19 = 2 + 3 + 10 + 11 + 12 +
 13 + 14 + 15 + 16 +
 17 + 18
 20 IS RUN TOTAL
 20 IS 19 + LAG 20

Figure 1

cells, as shown in the screen photo on the right.

Some Tricks to Try

The first row in this template is called DATE, and every number value in that row represents a date rather than some quantity to be used in a calculation. For example, column 1 of row 1 contains the value 1026.84 which was entered to represent October 26, 1984. All the data in column 1 was gathered or reflects events that happened on this date—a useful record-keeping trick to remember for your own templates.

The TRIPCOST template was set up as a simple example of tracking the costs of a business trip. Our traveler's set of data would indicate from the file name,

a trip to Seattle which, as we see from the dates, lasted four days. Consult your Control Capsule and print a spreadsheet report, which should look something like the report on the next page in Figure 2.

Look around the spreadsheet and notice the calculated results. These can be identified by the set of logic rules that you printed out earlier. Try changing some values and then re-calculate the spreadsheet.

Snap-Calc, like all spreadsheets, follows all of the calculation rules whether they make sense or not. For example, the TOTAL COLUMN "rule" causes all the cells of each row to be totaled in the corresponding cell of the TOTAL COLUMN. The TOTAL COLUMN is defined as 10 in the TRIPCOST template. Notice that the DATE row in the TOTAL COLUMN is equal to 4113.36—a useless result to be ignored. Look at the totals for GAS COST, DINNER, or HOTEL ROOM, however, and you will find results which are very useful.

Useful results are dependent upon reasonable data being entered. As can be seen from the logic template rules, the values in the MILES, MILAGE, and COST/MILE rows are dependent on the data placed in the GAS COST, GALLONS, ODOM.START, and ODOM.STOP rows. On the first day of the trip, no gas was purchased, and the gallons used were not recorded. This caused unreasonable results in the first day's mileage and cost per mile. Watch for this type of anomaly on your spreadsheets!

Examine the RUN TOTAL row on the report. This row contains the "running

TRIPCOST	ROW NAME	1	2
	1 DATE	1026.84	1027.84
	2 CAR RENTAL	0.00	32.00
	3 GAS COST	0.00	22.00
	4 GALLONS	0.00	18.50
	5 ODOM.START	1918.50	310.00
	6 ODOM.STOP	2102.80	634.70
	7 MILES	184.30	324.70
	8 MILAGE	99999.99	17.55
	9 COST/MILE	0.00	0.07
	10 BREAKFAST	0.00	6.74
	11 LUNCH	0.00	3.25
	12 DINNER	12.30	15.27
	13 SNACKS	0.00	0.75
	14 ENTERTAINM	0.00	6.50
	15 TIPS	5.00	3.50
	16 HOTEL ROOM	76.00	76.00
	17 AIR FARE	212.48	0.00
	18 TAXI FARE	15.00	0.00
	19 DAILY TOT	320.78	166.01
	20 RUN TOTAL	320.78	486.79

total" for the trip costs. Look at the logic rule for row 20 and observe that it adds the current row-19 value to the previous row-20 value (LAG 20).

Here are some other things to remember when working with templates of your own: (1) Any one template will work with many different

sets of data, (2) every time you modify a template for a slightly different use, save it under a different name, and (3) plan each template out on paper before putting it on the machine—test it well before trusting its results.

SNAP-CALC SPREAD SHEET											
SEATTLE TRIP		11/1/84									
ROW#	ROW NAME	1	2	3	4	5	6	7	8	9	10
1	DATE	1026.84	1027.84	1028.84	1029.84	0.00	0.00	0.00	0.00	0.00	4113.36
2	CAR RENTAL	0.00	32.00	32.00	0.00	0.00	0.00	0.00	0.00	0.00	64.00
3	GAS COST	0.00	22.00	12.00	10.00	0.00	0.00	0.00	0.00	0.00	44.00
4	GALLONS	0.00	18.50	10.60	8.40	0.00	0.00	0.00	0.00	0.00	37.50
5	ODOM.START	1918.50	310.00	634.70	2102.80	0.00	0.00	0.00	0.00	0.00	4966.00
6	ODOM.STOP	2102.80	634.70	813.20	2287.00	0.00	0.00	0.00	0.00	0.00	5837.70
7	MILES	184.30	324.70	178.50	184.20	0.00	0.00	0.00	0.00	0.00	871.70
8	MILAGE	99999.99	17.55	16.84	21.93	0.00	0.00	0.00	0.00	0.00	99999.99
9	COST/MILE	0.00	0.07	0.07	0.05	0.00	0.00	0.00	0.00	0.00	0.19
10	BREAKFAST	0.00	6.74	6.74	7.21	0.00	0.00	0.00	0.00	0.00	20.69
11	LUNCH	0.00	3.25	4.50	0.00	0.00	0.00	0.00	0.00	0.00	7.75
12	DINNER	12.30	15.27	8.22	0.00	0.00	0.00	0.00	0.00	0.00	35.79
13	SNACKS	0.00	0.75	2.00	3.50	0.00	0.00	0.00	0.00	0.00	6.25
14	ENTERTAINM	0.00	6.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.50
15	TIPS	5.00	3.50	3.00	1.00	0.00	0.00	0.00	0.00	0.00	12.50
16	HOTEL ROOM	76.00	76.00	76.00	0.00	0.00	0.00	0.00	0.00	0.00	228.00
17	AIR FARE	212.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	212.48
18	TAXI FARE	15.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00	30.00
19	DAILY TOT	320.78	166.01	144.46	36.71	0.00	0.00	0.00	0.00	0.00	667.96
20	RUN TOTAL	320.78	486.79	631.25	667.96	667.96	667.96	667.96	667.96	667.96	5446.58

Figure 2